

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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IN RE THE APPLICATION OF:

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Serial no.

PAPER: 1

Group Art Unit:

Examiner:

Filed:

For: METHOD TO CONTROL REACTIONS  
INVOLVING ISOTOPIC FUEL  
WITHIN A MATERIAL USING  
ORTHOGONAL ELECTRIC-FIELDS

This is a division of Serial no. 07/ 760,970

Filed: 09/17/1991

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December 26, 2000

**ABSTRACT OF THE DISCLOSURE**

The present invention relates to methods and systems to control reactions involving isotopic fuels within a material, such as hydrogen within palladium.

The method and apparatus uses at least two non-parallel electric-fields to control the loading into the material and redistribution of the isotopic fuel within the material.